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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/768,506	01/30/2004	David Mark Pascoc	19345-096232	6887
7590		06/20/2007		
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			EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/768,506	Applicant(s) PASCOE ET AL.	
	Examiner James Pilkington	Art Unit 3682	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 4-13 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 4-13 and 15-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claim 15 is rejected under 35 U.S.C. 102(b) as being anticipated by Sykes, USP 2,914,137.

Sykes discloses an oil pump drive assembly for an automobile engine comprising:

- A housing (16) having a sprocket side (left of gears 34 and 35 in Figure 4) and a pump side (right of gears 34 and 35 in Figure 4)
- A first bore (left of 35 in Figure 4) and a second bore (by character 33 in Figure 4) for supporting the balance shaft (33)
- A third bore (at 26 near gear 27) for supporting the sprocket end of the drive shaft (25)
- A fourth bore in the oil pump housing (the shaft extends into the housing to drive the pump) for supporting the pump end of the drive shaft (25)
- An oil pump (40)
- A drive shaft (25) having a distal input end (outside pump 40) and an opposite pump end (end connecting to pump 40, C2/L18-57)
- A sprocket (27) secured to the distal input end

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- A gear assembly (gears 34 and 35) comprising a drive gear (34) secured to the drive shaft (25) and a driven gear (35), the gear assembly being positioned at the distal input end of the drive shaft and the oil pump positioned at the opposite end (see Figure 4)
- A balance shaft (33) extending axially from the driven gear (35) for rotation with the driven gear (35) in response to rotation of the drive shaft (25)

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 4-11, 13 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sykes, USP 2,914,137, in view of Killion, US PGPub 2001/0023623.

Re clms 6-11 and 13, Sykes discloses an oil pump drive assembly for an automobile engine comprising:

- An oil pump (40)
- A drive shaft (25) having a distal input end (outside pump 40) and an opposite pump end (end connecting to pump 40, C2/L18-57)
- A sprocket (27) secured to the distal input end
- A gear assembly (gears 34 and 35) comprising a drive gear (34) secured to the drive shaft (25) and a driven gear (35), the gear assembly being

positioned at the distal input end of the drive shaft and the oil pump positioned at the opposite end (see Figure 4)

- A balance shaft (33) extending axially from the driven gear (35) for rotation with the driven gear (35) in response to rotation of the drive shaft (25)
- A housing (16) having a sprocket side (left of gears 34 and 35 in Figure 4) and a pump side (right of gears 34 and 35 in Figure 4)
- A first bore (left of 35 in Figure 4) and a second bore (by character 33 in Figure 4) for supporting the balance shaft (33)
- An oil pump housing (40) attached to the pump side (right in Figure 4) of the housing (16)
- A third bore (at 26 near gear 27) for supporting the sprocket end of the drive shaft (25)
- A fourth bore in the oil pump housing (the shaft extends into the housing to drive the pump) for supporting the pump end of the drive shaft (25)

Sykes does not disclose that the balance shaft comprises at least two axially spaced offset masses.

Killion teaches a balance shaft (Figures 9) that comprises at least two axially spaced offset masses (113, 114) for the purpose of providing a balance shaft with added strength (Paragraph 0068 and Paragraphs 0016-0034).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Sykes and provide a balance shaft that

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comprises at least two axially spaced offset masses, as taught by Killion, for the purpose of providing a balance shaft with added strength.

5. Re clms 4, 5, 16 and 17, Sykes or Sykes in view of Killion as discussed above discloses all of the claimed subject matter as described above.

Sykes does not disclose the driven gear having a smaller diameter than the drive gear and that the balance shaft rotates at twice the speed of the drive shaft

Killion teaches a driven gear (72) having a smaller diameter than the drive gear (84) and that the balance shaft rotates at twice the speed of the drive shaft (paragraph 0062) for the purpose of counterbalancing the vibrations caused by the engine (paragraph 0062).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Skyes and provide a driven gear having a smaller diameter than the drive gear and that the balance shaft rotates at twice the speed of the drive shaft, as taught by Killion, for the purpose of counterbalancing the vibrations caused by the engine.

6. Claim 12 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sykes '137 in view of Killion '623 and further in view of Beardmore, USP 6,183,230.

Sykes in view of Killion discloses all of the claimed subject matter as described above.

Sykes in view of Killion does not disclose the oil pump operates at the same speed as the engine.

Beardmore teaches that an oil pump can operate at the same speed as the engine (crankshaft 12 drives the oil pump 14) for the purpose of providing a pump drive system that does not generate noise (C1/L35-38).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Skyes in view of Killion and provide for the oil pump to operate at the same speed as the engine, as taught by Beardmore, for the purpose of providing a pump drive system that does not generate noise.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sykes, USP 2,914,137, in view of Beardmore, USP 6,183,230.

Sykes discloses all of the claimed subject matter as described above.

Sykes does not disclose the oil pump operates at the same speed as the engine.

Beardmore teaches that an oil pump can operate at the same speed as the engine (crankshaft 12 drives the oil pump 14) for the purpose of providing a pump drive system that does not generate noise (C1/L35-38).

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify the teachings of Skyes and provide for the oil pump to operate at the same speed as the engine, as taught by Beardmore, for the purpose of providing a pump drive system that does not generate noise.

Response to Arguments

8. Applicant's arguments with respect to independent claim 13 and dependent claims 4-12 have been considered but are moot in view of the new ground(s) of rejection.

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9. Regarding the applicant's argument that the cited references do not provide any teaching, suggestion, or motivation for one skilled in the art to incorporate a single balance shaft into the Sykes reference. The examiner notes that the claims are written using the term "comprising" and not "consisting of." The term "comprising" does not limit the claim to only the structure listed in the claim; a prior art reference can have more structure than that listed in the claim and still read on the claim, see MPEP 2111.03.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. All the prior art made of record show starters that have different arrangements of the essential working parts.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Pilkington whose telephone number is (571) 272-5052. The examiner can normally be reached on Monday-Friday 8:00AM-4:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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6/4/07


RICHARD RIDLEY
SUPERVISORY PATENT EXAMINER